IN THE CLAIMS:

Claims 1-36 (Cancelled)

37. (Previously Presented) A direct oxidation fuel cell, comprising

(A) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect;

(B) a fuel cell housing enclosing said fuel cell with an anode chamber being defined between said anode aspect of the catalyzed membrane electrolyte and an exterior portion of said cell housing, said fuel cell housing also including a cathode chamber being defined between said catalyzed membrane electrolyte and an exterior portion of said fuel cell housing, opposite said anode chamber;

(C) a direct fuel feed into said anode chamber that has no liquid exit port such that liquid that is present in said anode chamber cannot exit said anode chamber except across said catalyzed membrane electrolyte;

(D) at least one gaseous effluent release port in said anode chamber, which is in substantially direct gaseous communication with the ambient environment, to vent gaseous product of an electricity-generating reaction from said anode chamber to the ambient environment, and not into said cathode chamber, as said gaseous product is generated; and

(E) a load coupled across said fuel cell, providing a path for electrons produced in electricity generating reactions of said fuel cell.

38. (Previously Presented) The direct oxidation fuel cell as defined in claim 37 wherein a substance delivered by said direct fuel feed into a liquid-closed volume in the anode chamber is up to 100% fuel.

39. (Previously Presented) The direct oxidation fuel cell as defined in claim 38 wherein said fuel is methanol.

40. (Previously Presented) The direct oxidation fuel cell as defined in claim 37 wherein fuel is delivered by said direct fuel feed into said anode chamber without anode liquid recirculation.

41. (Previously Presented) The direct oxidation fuel cell as defined in claim 37 wherein water produced at said cathode is not actively collected or pumped to said anode chamber.

42. (Previously Presented) The direct oxidation fuel cell as defined in claim 37 wherein gaseous product traveling out of said fuel cell through said gaseous effluent release port is at least partially comprised of carbon dioxide.

43. (Previously Presented) The direct oxidation fuel cell as defined in claim 37 wherein at least a portion of one wall of said anode chamber is gas permeable and liquid impermeable.

44. (Previously Presented) A direct oxidation fuel cell, comprising:

(A) a catalyzed membrane electrolyte having an anode aspect and a cathode aspect;

(B) a fuel cell housing with an anode chamber being defined between said anode aspect of said catalyzed membrane electrolyte and an exterior portion of said cell housing, and fuel being delivered to, but not actively recirculated from, said anode chamber, said fuel cell housing also including a cathode chamber being defined between said catalyzed membrane electrolyte and an exterior portion of said fuel cell housing, opposite said anode chamber; and

(C) a gaseous anodic product removal component disposed between said catalyzed membrane electrolyte and at least a portion of the interior wall of the anode cham-

ber for effective release by venting anodically generated gaseous product of an electricity-generating reaction substantially directly to the ambient environment, and not into the cathode chamber.

45. (Previously Presented) A direct oxidation fuel cell system, comprising:

(A) a direct oxidation fuel cell having:

(i) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect;

(ii) a fuel cell housing enclosing said fuel cell with an anode chamber being defined between said anode aspect of the catalyzed membrane electrolyte and an exterior portion of said cell housing, said fuel cell housing also including a cathode chamber being defined between said catalyzed membrane electrolyte and an exterior portion of said fuel cell housing, opposite said anode chamber;

(iii) a direct fuel feed into an anode chamber, having no liquid exit, such that fuel that enters into the anode chamber by the direct fuel feed cannot exit the anode chamber except across said catalyzed membrane electrolyte; and

(iv) at least one gaseous effluent release port located in said anode chamber in close proximity to said anode aspect of the catalyzed membrane electrolyte, which is in substantially direct gaseous communication with the ambient environment and through which anodically generated gaseous product of an electricity reaction is vented and released from said anode chamber as it is generated, and not into the cathode chamber;

(B) a fuel source coupled to said anode chamber; and

(C) means by which current can be collected from the fuel cell and conducted to a load, whereby electricity is generated by said fuel cell as fuel is delivered to said anode chamber without external pumping of cathodically-generated water and without active water removal elements.

46. (Previously Presented) A direct oxidation fuel cell, comprising:

(A) a catalyzed membrane electrolyte assembly having an anode aspect and a cathode aspect and

(B) means for outporting gaseous product of an electricity generating reaction away from the anode aspect of the fuel cell substantially directly to the ambient environment through an anode chamber and not into a cathode chamber which means for outporting gasses is disposed in close proximity to said anode aspect of the catalyzed membrane electrolyte assembly.

47-54 (Cancelled)

55. (Previously Presented) A direct oxidation fuel cell comprising:

(A) a membrane electrode assembly, including:

(i) a protonically-conductive, electronically non-conductive catalyzed membrane electrolyte;

(ii) a catalyst disposed on said membrane electrolyte;

(iii) an anode diffusion layer disposed contiguous to an anode aspect of the membrane electrolyte;

(iv) a cathode diffusion layer disposed contiguous to a cathode aspect of the membrane electrolyte; and

(B) a gas-permeable, liquid-impermeable layer for releasing anodically generated gaseous product of an electricity-generating reaction as it is generated and is vented to the ambient environment and not into said cathode chamber, coupled in proximity to said anode diffusion layer; and

(C) a coupling across said fuel cell to conduct electricity generated by said fuel cell to an associated load; and

(D) a fuel cell housing substantially enclosing said fuel cell.

56. (Previously Presented) A direct oxidation fuel cell system, comprising:

(A) a fuel source;

(B) a direct oxidation fuel cell including:

(i) a protonically-conductive, electronically non-conductive catalyzed membrane electrolyte;

(ii) a catalyst disposed on said membrane electrolyte;

(iii) an anode diffusion layer disposed contiguous to the anode aspect of the membrane electrolyte;

(iv) a cathode diffusion layer disposed contiguous to the cathode aspect of the membrane electrolyte; and

(v) a gas-permeable, liquid-impermeable layer coupled in proximity to said anode diffusion layer, for releasing anodically generated gaseous product of an electricity-generating reaction to an ambient environment and not into said cathode chamber; and

(vi) a coupling across said fuel cell to conduct electricity generated by said fuel cell to an associated load.

57. (Previously Presented) The direct oxidation fuel cell system as defined in claim 56 wherein the fuel is up to 100% fuel.

58. (Previously Presented) The direct oxidation fuel cell system as defined in claim 57 wherein said fuel is methanol.

59-61 (Cancelled)

62. (Previously Presented) A direct oxidation fuel cell system, comprising:

(A) a fuel source;

(B) a direct oxidation fuel cell having a catalyzed membrane electrolyte with an anode aspect and a cathode aspect;

(C) a cell housing with an anode chamber defined between the anode aspect of the catalyzed membrane and one exterior portion of said cell housing, with said chamber having no exit port for liquid; and

(D) an element disposed between said fuel source and said anode aspect of the direct oxidation fuel cell for controlling the delivery of fuel to the anode aspect of the membrane electrolyte.

63. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62, wherein said element controls the delivery of fuel without pumps or active recirculation mechanisms.

64. (Cancelled)

65. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62 wherein

said fuel source is disposed external to the fuel cell.

66. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62 wherein

a pressure differential exists between the fuel in the fuel source and the anode chamber of the fuel cell.

67. (Cancelled)

68. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62 wherein

said fuel source contains more than one liquid that may be mixed between the fuel source and the anode of the fuel cell.

69. (Previously Presented) The direct oxidation fuel cell system as defined in claim 68 wherein

said fuel source contains methanol and water.

70. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62 wherein

said fuel source is capable of delivering up to 100% fuel to said fuel cell.

71. (Previously Presented) The direct oxidation fuel cell system as defined in claim 70 wherein said fuel is methanol.

72. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62 wherein

delivery of said fuel is performed by suction.

73. (Previously Presented) The direct oxidation fuel cell system as defined in claim 62 wherein

said delivery by suction is performed by the action of a capillary network in a porous component, which is disposed between said fuel source and said anode of said direct oxidation fuel cell.

74-95 (Cancelled)

96. (Previously Presented) A direct oxidation fuel cell, comprising:

(A) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect wherein said anode aspect has no liquid exit, and anodically generated gaseous product of an electricity-generating reaction is vented to the ambient environment as it is generated through an element coupled in close proximity to said anode aspect, and said anodically generated gaseous product is not vented across said membrane electrolyte into a cathode chamber;

(B) a fuel source for providing fuel to said anode aspect, wherein said fuel comprises concentrated methanol; and

(C) a load coupled across said fuel cell, providing a path for electrons produced in electricity-generating reactions of said fuel cell.

97. (Previously Presented) A direct oxidation fuel cell, comprising:

(A) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect, and wherein said anode aspect has no liquid exit, and anodically generated gaseous product of an electricity-generating reaction is vented to the ambient environment as it is generated through an element coupled in close proximity to said anode aspect, and said anodically generated gaseous product is not vented across said membrane electrolyte into a cathode chamber;

(B) a fuel source for providing fuel to said anode aspect, wherein said fuel consists essentially of concentrated methanol; and

(C) a load coupled across said fuel cell, providing a path for electrons produced in electricity-generating reactions of said fuel cell.

98. (Previously Presented) A direct oxidation fuel cell system, comprising:

(A) a direct oxidation fuel cell having:

(i) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect, and wherein said anode aspect has no liquid exit, and anodically generated gaseous product of an electricity-generating reaction is vented to the ambient environment as it is generated through an element coupled in close proximity to said anode aspect, and said anodically generated gaseous product is not vented across said membrane electrolyte into a cathode chamber;

(ii) a source of fuel, said fuel comprising concentrated methanol for providing fuel to said anode aspect;

(B) a fuel cell housing enclosing said fuel cell; and

(C) a load coupled across said fuel cell by which current can be collected from the fuel cell.

99. (Previously Presented) A direct oxidation fuel cell system, comprising:

(A) a direct oxidation fuel cell having:

(i) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect, and wherein said anode aspect has no liquid exit, and anodically-generated gaseous product of an electricity-generating reaction is vented to the ambient environment as it is generated through an element coupled in close proximity to said anode aspect, and said anodically generated gaseous product is not vented across said membrane electrolyte into a cathode chamber;

(ii) a source of fuel, said fuel consisting essentially of concentrated methanol for providing fuel to said anode aspect;

(B) a fuel cell housing enclosing said fuel cell; and

(C) a load coupled across said fuel cell by which current can be collected from the fuel cell.

100. (Cancelled)

101. (Previously Presented) A direct oxidation fuel cell, comprising:

(A) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect, and wherein said anode aspect has no liquid exit, and anodically-generated gaseous product of an electricity-generating reaction is vented to the ambient environment as it is generated through an element coupled in close proximity to said anode aspect, and said anodically generated gaseous product is not vented across said membrane electrolyte into a cathode chamber;

(B) a source of fuel having a methanol concentration greater than the 1:1 ratio of methanol:water required by the electrochemical reaction at the anode aspect for providing fuel to said anode aspect; and

(C) a load coupled across said fuel cell, providing a path for electrons produced in electricity-generating reactions of said fuel cell.

102. (Previously Presented) A direct oxidation fuel cell system, comprising:

(A) a direct oxidation fuel cell having:

(i) a catalyzed membrane electrolyte, having an anode aspect and a cathode aspect, and wherein said anode aspect has no liquid exit, and anodically-generated gaseous product of an electricity-generating reaction is vented to the ambient environment as it is generated through an element coupled in close proximity to said anode aspect, and said anodically generated gaseous product is not vented across said membrane electrolyte into a cathode chamber; and

(ii) a source of fuel having a methanol concentration greater than the 1:1 ratio of methanol:water required by the electrochemical reaction at said anode aspect for providing fuel to said anode aspect;

(B) a fuel cell housing enclosing said fuel cell; and

(C) a load coupled across said fuel cell by which current can be collected from the fuel cell.